

**REMARKS**

In the Final Office Action<sup>1</sup>, the Examiner took the following actions:

- (a) objected to claims 13 and 14 as being “substantially duplicative”;
- (b) required a new title;
- (c) rejected claims 2, 3 and 9 under 35 U.S.C. § 112, first paragraph;
- (d) rejected claims 2 and 3 under 35 U.S.C. § 112, second paragraph and;
- (e) rejected claims 1-9, 13, and 14 under 35 U.S.C. § 103(a) as being unpatentable over either Horimai et al. (U.S. Patent 5,917,798) (“Horimai”), or alternatively WO99/44195 (via its U.S. equivalent, U.S. Patent No. 7,130,092) (“Horimai II”) in view of Moerner et al. (U.S. Patent 5,607,799) (“Moerner”).

Applicants have amended claims 1, 3, 8, 9, 13, and 14, cancelled claims 2, 4, and 5, and added new claims 15-19. The subject matter of new claims 15-19 can be found in Applicants’ specification at, for example page 12, lines 22-28. Neither the claim amendments nor new claims 15-19 introduce new matter.

Upon entry of this Amendment, claims 1, 3 and 6-19 will remain pending, with claims 10-12 withdrawn from consideration.

**Information Disclosure Statement**

In the Final Office Action, the Examiner enclosed copies of signed PTO 1449 forms, dated May 9, 2007, for each of the documents listed in the Information Disclosure Statements that Applicants filed on September 23, 2004 and October 7, 2004. In response to the Examiner’s inquiry, Applicants confirm that they desire to have

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<sup>1</sup> The Office Action contains a number of statements reflecting characterizations of the related art and the claims. Regardless of whether any such statement is identified herein, Applicants decline to automatically subscribe to any statement or characterization in the Office Action.

the cited documents printed on the face of any patent that may issue from the present application.

**Objection to Claims 13 and 14**

Applicants respectfully traverse the objection to claims 13 and 14. However, to advance prosecution, Applicants have amended claims 13 and 14. Claim 14 differs from claim 13 by, at least, additionally requiring that the recording medium includes a groove and reciting a different equation for the range of the optical density  $S(z)$ .

Applicants therefore deem the Examiner's objection to claims 13 and 14 overcome, and request that the objection be withdrawn.

**Objection to the Title**

Applicants have amended the title in a manner consistent with the Examiner's comments at page 2 of the Final Office Action by including the word "holographic." Applicants deem this objection overcome and respectfully request that the Examiner withdraw the objection to the title of this application.

**Rejections under 35 U.S.C. § 112, first paragraph**

Applicants respectfully traverse the rejection of claims 2, 3 and 9 under 35 U.S.C. § 112, first paragraph.

The Examiner alleged that claims 2, 3 and 9 "contain[] subject matter, which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s) ... had possession of the claimed invention" (Final Office Action, page 2). Specifically, the Examiner alleged that previously added elements of claims 2, 3 and 9 "are not readily found/contained in the specification as originally filed" (*Id.* at 3).

In response, and without conceding to the Examiner's argument, Applicants have cancelled claim 2 without prejudice or disclaimer, thereby rendering the Examiner's rejection with respect to this claim moot. Applicants also have amended claims 3 and 9. Support for the subject matter of claims 3 and 9 may be found in the specification at, for example, page 3, lines 20-28 , page 9, lines 9-16, page 13, lines 18-20, page 14, line 34 through page 15, line 11, and page 15, lines 1-8.

The originally filed specification clearly discloses the elements recited in amended claims 3 and 9. Applicants therefore respectfully request that the Examiner withdraw the rejection to claims 2, 3 and 9 under 35 U.S.C. § 112, first paragraph.

**Rejection under 35 U.S.C. § 112, second paragraph**

Applicants respectfully traverse the rejection of claims 2 and 3 under 35 U.S.C. § 112, second paragraph.

The Examiner contended that claims 2 and 3 are indefinite (Final Office Action, p. 3). Specifically, the Examiner contended that the claims "attempt to further define the optical density of the recording medium; however, **how such limitations** arise from the parent claim is not clear" (*Id.*, emphasis in original).

As noted, Applicants have cancelled claim 2 and amended claim 3. Upon entry of this amendment, Applicants deem the rejection of claim 3 under 35 U.S.C. § 112, second paragraph, overcome. Applicants therefore request that the rejection of claims 2 and 3 be withdrawn.

**Rejection Under 35 U.S.C. § 103(a)**

Applicants respectfully traverse the rejection of claims 1-9, 13 and 14 under 35 U.S.C. § 103(a) as being unpatentable over Horimai or Horimai II, and Moerner.

The key to supporting any rejection under 35 U.S.C. § 103 is the clear articulation of the reason(s) why the claimed invention would have been obvious. Such an analysis should be made explicit and cannot be premised upon mere conclusory statements. See *M.P.E.P. § 2142, 8th Ed., Rev. 6* (Sept. 2007). “A conclusion of obviousness requires that the reference(s) relied upon be enabling in that it put the public in possession of the claimed invention.” *M.P.E.P. § 2145*. Furthermore, “[t]he mere fact that references can be combined or modified does not render the resultant combination obvious unless the results would have been predictable to one of ordinary skill in the art” at the time the invention was made. *M.P.E.P. §2143.01(III), internal citation omitted*. Moreover, “[i]n determining the differences between the prior art and the claims, the question under 35 U.S.C. § 103 is not whether the differences themselves would have been obvious, but whether the claimed invention as a whole would have been obvious.” *M.P.E.P. § 2141.02(I)*, internal citations omitted (emphasis in original).

The prior art, taken alone or in combination, fails to render obvious Applicants’ claimed invention. For example, Horimai, Horimai II, and Moerner do not render obvious at least Applicants’ claimed “recording layer that contains regions of differing optical density” (claim 1, and similarly recited in independent claims 8, 9, 13 and 14).

Horimai appears to teach an optical information recording medium with a recording layer, a reflecting layer and radial addressing areas. Horimai II appears to

teach an optical recording medium with a recording layer wherein information is "recorded utilizing holography in the form of interference pattern as a result of interference between information light . . . and reference light," (Horimai II, col. 66, line 67 and col. 67, lines 1-3). However, Horimai and Horimai II fail to teach or suggest Applicants' claimed "recording layer that contains regions of differing optical density."

Moerner appears to teach a holographic storage device comprised of a three component optical photorefractive article, wherein recording involves the creation of internal electric fields that produce "local changes in the index of refraction" (Moerner, col. 1, lines 12-14). However, Moerner fails to teach or suggest Applicants' claimed "recording layer that contains regions of differing optical density."

Therefore, Horimai or Horimai II, and Moerner, separately or in any combination, do not render obvious Applicants' claimed invention, as recited in independent claim 1.

Claim 1 should therefore be allowable. Independent claims 8, 9, 13 and 14, although different in scope, recite similar limitations as claim 1, and should also be allowable for the same reasons as claim 1. In addition, claims 3, 6 and 7 should be allowable at least due to their dependence from base claim 1. New claims 15-19 should also be allowable at least due to their respective dependence from base claim 1, 8, 9, 13 or 14. Applicants therefore request reconsideration and withdrawal of the 35 U.S.C. § 103(a) rejection.

In view of the foregoing, Applicants respectfully request reconsideration and reexamination of this application and the timely allowance of the pending claims.

Please grant any extensions of time required to enter this response and charge any additional required fees to our deposit account 06-0916.

Respectfully submitted,

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